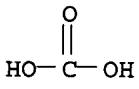
L5 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 298-14-6 REGISTRY
CN Carbonic acid, monopotassium salt (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Armicarb
CN Hydrogen potassium carbonate
CN K-Lyte
CN Kafylox
CN Kaligreen
CN Monopotassium carbonate
CN Potassium acid carbonate
CN **Potassium bicarbonate**
CN Potassium bicarbonate (KHCO3)
CN Potassium carbonate (KHCO3)
CN Potassium hydrogen carbonate (KHCO3)
CN Purple K
MF C H2 O3 . K
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, DDFU, DETHERM*, DIOGENES, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PDLCOM*, PHAR, PIRA, PROMT, TOXCENTER, TULSA, USAN, USPAT2, USPATFULL, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
CRN (463-79-6)



3285 REFERENCES IN FILE CA (1957 TO DATE)
35 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
3287 REFERENCES IN FILE CAPLUS (1957 TO DATE)
3 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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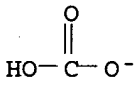
L6 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 71-52-3 REGISTRY
CN Carbonate, hydrogen (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Bicarbonate
CN Bicarbonate (HCO3-)
CN Bicarbonate anion
CN **Bicarbonate ion**
CN Bicarbonate ion (HCO31-)
CN Carbonate (HCO31-)
CN Carbonate ion (HCO31-)
CN Carbonic acid, ion(1-)
CN Hydrocarbonate(1-)
CN Hydrogen carbonate
CN Hydrogen carbonate (HCO3-)
CN Hydrogen carbonate anion
CN Hydrogen carbonate ion
CN Hydrogen carbonate ion (HCO3-)
CN Monohydrogen carbonate
MF C H O3
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAPLUS, CASREACT, CBNB, CEN, CHEMINFORMRX, CIN, EMBASE, GMELIN*, IFICDB, IFIPAT, IFIUDB, NIOSHTIC, PIRA, PROMT, SPECINFO, TOXCENTER, TULSA, USPAT2, USPATFULL
(*File contains numerically searchable property data)



12700 REFERENCES IN FILE CA (1957 TO DATE)
98 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
12710 REFERENCES IN FILE CAPLUS (1957 TO DATE)

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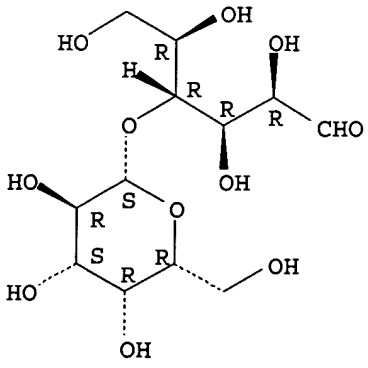
L2 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 63-42-3 REGISTRY
CN D-Glucose, 4-O-.beta.-D-galactopyranosyl- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN **Lactose (8CI)**
OTHER NAMES:
CN (+)-Lactose
CN AHL
CN Aletobiose
CN D-(+)-Lactose
CN Fast-flo
CN Fast-Flo Lactose
CN Galactinum
CN Lactin
CN Lactin (carbohydrate)
CN Lactobiose
CN Lactose anhydride
CN Lactose anhydrous
CN Lactose Fast-flo
CN Milk sugar
CN Nonpareil 107
CN Osmolactan
CN Pharmatose 21
CN Pharmatose 325M
CN Pharmatose 450M
CN Saccharum lactin
CN Tablettose
CN Tablettose 70
CN Zeparox EP
AR 16984-38-6
FS STEREOSEARCH
DR 1336-90-9, 36570-80-6, 73824-63-2, 89466-76-2, 35396-14-6
MF C12 H22 O11
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DRUGU, EMBASE, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PDLCOM*, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, TULSA, USPAT2, USPATFULL, VETU
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry. Rotation (+).

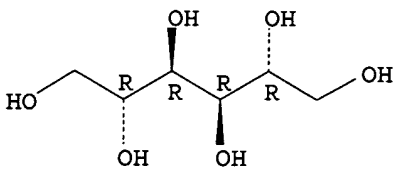


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

> d 1 2

L1 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2003 ACS
RN 87-78-5 REGISTRY
CN **Mannitol (8CI, 9CI)** (CA INDEX NAME)
OTHER NAMES:
CN Mannidex 16700
FS STEREOSEARCH
DR 133-43-7, 36413-61-3, 5149-40-6
MF C6 H14 O6
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, DETHERM*, DIOGENES, EMBASE, GMELIN*, HODOC*, IFICDB, IFIPAT, IFIUDB, MEDLINE, NAPRALERT, NIOSHTIC, PDLCOM*, PHARMASEARCH, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, USPAT2, USPATFULL
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

Relative stereochemistry.



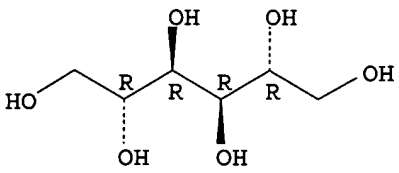
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

165 REFERENCES IN FILE CA (1957 TO DATE)
12 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
167 REFERENCES IN FILE CAPLUS (1957 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L1 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2003 ACS
RN 69-65-8 REGISTRY
CN D-Mannitol (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Cordycepic acid (6CI, 7CI)
CN Mannitol, D- (8CI)
OTHER NAMES:
CN D-(-)-Mannitol
CN Diosmol
CN Isotol
CN Manicol
CN Maniton S
CN Manna sugar
CN Mannidex
CN Mannigen
CN Mannistol
CN Mannit
CN Mannite
CN **Mannitol**
CN Mannitolum
CN Mannogem 2080
CN Marine Crystal
CN Osmitrol
CN Osmosal
CN Resectisol
FS STEREOSEARCH

DR 123897-58-5, 75398-80-0, 85085-15-0
MF C6 H14 O6
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DRUGU, EMBASE, GMELIN*, HODOC*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, NIOSHTIC, PDLCOM*, PHARMASEARCH, PIRA, PROMT, RTECS*, SPECINFO, TOXCENTER, TULSA, USAN, USPAT2, USPATFULL, VETU
      (*File contains numerically searchable property data)
    Other Sources: DSL**, EINECS**, TSCA**
      (**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

12451 REFERENCES IN FILE CA (1957 TO DATE)
  283 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
12479 REFERENCES IN FILE CAPLUS (1957 TO DATE)
    2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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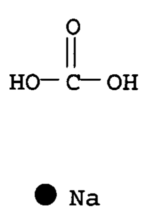
L61 ANSWER 31 OF 294 CA COPYRIGHT 2003 ACS
AN 136:147485 CA
TI An advantageous carrier **solution** for vitrifiable concentrations of cryoprotectants, and compatible cryoprotectant mixtures
IN Fahy, Gregory M.; Wowk, Brian
PA 21st Century Medicine, USA
SO PCT Int. Appl., 16 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002009516	A2	20020207	WO 2001-US23853	20010730
	WO 2002009516	A3	20020613		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, CZ, DE, DE, DK, DK, DM, DZ, EC, EE, EE, ES, FI, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	EP 1311155	A2	20030521	EP 2001-967949	20010730
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
PRAI	US 2000-221691P	P	20000731		
	WO 2001-US23853	W	20010730		

AB Disclosed herein is a carrier **soln**. for cryoprotectants that is useful for use with cells, tissues, and whole organs and for a variety of cryoprotectant **solns**. and that permits antinucleators to be fully effective in vitrification **solns**., thereby allowing vitrification **solns**. to attain extreme effectiveness, and compatible vitrification **soln**. compns. for use with this carrier **soln**. The carrier **soln**. comprises lactose and mannitol as well as other beneficial ingredients.
IC ICM A01N001-02
CC 9-11 (Biochemical Methods)
ST carrier **soln** vitrifiable concn cryoprotectant compatible
IT Animal tissue
Carriers
Cell
Concentration (condition)
Cryopreservation
Cryoprotectants
Kidney
Mixtures
Organ, animal
Solutions
Vitrification
Washing
(advantageous carrier **soln**. for vitrifiable concns. of cryoprotectants, and compatible cryoprotectant mixts.)
IT **50-99-7**, Glucose, biological studies 57-50-1, Sucrose, biological studies **63-42-3**, Lactose 67-68-5, Dimethyl sulfoxide, biological studies **69-65-8**, Mannitol 75-12-7, Formamide, biological studies 107-21-1, Ethylene glycol, biological studies 9002-89-5, Polyvinyl alcohol 9003-20-7D, Poly(vinyl acetate), 80% hydrolyzed 9003-39-8, Polyvinylpyrrolidone 9041-07-0, Decaglycerol 25213-24-5 25618-55-7, Polyglycerol 394248-23-8, X 1000
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES

L3 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2003 ACS
RN 144-55-8 REGISTRY
CN Carbonic acid monosodium salt (8CI, 9CI) (CA INDEX NAME)
OTHER NAMES:
CN Baking soda
CN BI-CF 40E
CN BI-H 40E
CN Carbonic acid sodium salt (1:1)
CN Carbonic acid, monosodium salt
CN Cellborn SC-K
CN Cellborn SC-P
CN Cellmic 266
CN DP 35/22
CN Extin B
CN Meylon
CN Monosodium carbonate
CN Monosodium hydrogen carbonate
CN Soda
CN Sodium acid carbonate
CN **Sodium bicarbonate**
CN Sodium carbonate (Na(HCO3))
CN Sodium hydrogen carbonate
CN Sodium monohydrogen carbonate
CN Soludal
CN Unifine P 4
DR 196216-68-9, 199723-76-7, 246180-97-2
MF C H2 O3 . Na
CI COM
LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA, CABA, CANCERLIT, CAOLD, CAPLUS, CASREACT, CBNB, CEN, CHEMCATS, CHEMINFORMRX, CHEMLIST, CIN, CSCHEM, CSNB, DDFU, DETHERM*, DIOGENES, DIPPR*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NIOSHTIC, PDLCOM*, PHARMASEARCH, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, USAN, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)
CRN (463-79-6)



mannitol L11 — 42 — 51
52
53
lactose L13 — 37
bicarb L25 — L35

methacrylate polymer 9003-53-6, Polystyrene 9003-54-7, Acrylonitrile-styrene copolymer 9003-56-9 9010-79-1, Ethylene-propylene copolymer 9011-14-7, Methyl methacrylate polymer 24937-78-8, Ethylene-vinyl acetate copolymer 24968-12-5, Polybutylene terephthalate 25014-41-9, Acrylonitrile polymer 25038-59-9, Polyethylene terephthalate, biological studies 25067-61-2, Methacrylonitrile polymer 25085-46-5, Ethylene-vinyl acetate-vinyl chloride copolymer 26062-94-2, Polybutylene terephthalate 120460-98-2, Urethane-vinyl chloride copolymer
RL: BIOL (Biological study)
(medical goods contg. hemolysis inhibitors and)

L61 ANSWER 230 OF 294 CA COPYRIGHT 2003 ACS
AN 102:181076 CA
TI Synergistic depression of the freezing temperature in **solutions** of polyhydroxy compounds and antifreeze glycoproteins
AU Kerr, William L.; Burcham, Timothy S.; Osuga, David T.; Yeh, Yin; Feeney, Robert E.; Caple, Gerald
CS Dep. Food Sci. Technol., Univ. California, Davis, CA, 95616, USA
SO Cryo-Letters (1985), 6(2), 107-14
CODEN: CRLED9; ISSN: 0143-2044
DT Journal
LA English
AB Mixts. of various polyhydroxy compds. with the low-mol.-wt. fractions of antifreeze glycoprotein from Antarctic fish blood showed a greater than additive lowering of the freezing temp. Mixts. of polyhydroxy compds. with higher-mol.-wt. antifreeze glycoproteins showed a much smaller synergistic effect on the freezing temp.
CC 6-3 (General Biochemistry)
Section cross-reference(s): 12
ST polyhydroxy compd antifreeze glycoprotein synergism; freezing point depression polyhydroxy compd glycoprotein; fish glycoprotein polyhydroxy compd synergism
IT Pagothenia borchgrevinki
(antifreeze glycoproteins of, f.p. depression by, polyhydroxy compds. synergism with)
IT Carbohydrates and Sugars, properties
RL: PRP (Properties)
(f.p. depression response to antifreeze glycoprotein synergism with)
IT Glycoproteins
RL: BIOL (Biological study)
(AFGP-4, f.p. depression by, polyhydroxy compds. synergism with)
IT Glycopeptides
Glycoproteins
RL: BIOL (Biological study)
(antifreeze, f.p. depression by, polyhydroxy compds. synergism with)
IT Hydroxy compounds
RL: BIOL (Biological study)
(poly-, f.p. depression response to antifreeze glycoprotein synergism with)
IT 50-70-4, properties **50-99-7**, properties 56-81-5, properties 57-50-1, properties 59-23-4, properties **63-42-3** **69-65-8** 69-79-4 87-89-8 87-99-0 488-81-3
RL: PRP (Properties)
(f.p. depression by antifreeze glycoprotein synergism with)

L61 ANSWER 250 OF 294 CA COPYRIGHT 2003 ACS
AN 98:8173 CA
TI Water-soluble preparation for making an isotonic nitroglycerin **solution**
IN Muench, Ulrich; Giesselmann, Ewald
PA Sanol Schwarz-Monheim G.m.b.H., Fed. Rep. Ger.
SO Ger. Offen., 16 pp.
CODEN: GWXXBX

DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3109783	A1	19821007	DE 1981-3109783	19810313
	DE 3109783	C2	19870402		
	FR 2501675	A1	19820917	FR 1982-4091	19820311
	FR 2501675	B1	19860919		
	WO 8203172	A1	19820930	WO 1982-DE54	19820312
	W: AT, CH, GB, HU, JP, LU, NL, US				
	JP 58500327	T2	19830303	JP 1982-500862	19820312
	JP 06015470	B4	19940302		
	GB 2110535	A1	19830622	GB 1982-32543	19820312
	GB 2110535	B2	19850206		
	US 4481220	A	19841106	US 1982-438887	19820929
	AT 8802240	A	19890315	AT 1988-2240	19880913
	AT 389050	B	19891010		
PRAI	DE 1981-3109783		19810313		
	AT 1982-9015		19820312		
	WO 1982-DE54		19820312		

AB A prepn. that can be dild. with H2O to give an isotonic infusion or injection **soln**. contg. 1 mg/mL nitroglycerin [55-63-0] contains nitroglycerin and a solubilizer in a ratio of 0.5:1 to 2:1 and a solid nitroglycerin carrier capable of controlling isotonicity. Thus, 1.6 kg nitroglycerin was dissolved in 8-10 L Et2O and mixed with 1.6 kg 1,2-propylene glycol [57-55-6]. The **soln**. was mixed with 76.8 kg glucose [**50-99-7**] with aeration until the Et2O evapd. and the **soln**. was homogeneous. The **soln**., 11.550 kg, was added gradually to H2O at 70.degree. until dissolved, cooled, and dild. with H2O (total of 220 L). The **soln**. was placed in ampuls or bottles for injection.

IC A61K031-21
CC 63-6 (Pharmaceuticals)
ST nitroglycerin solubilizer injection; propylene glycol nitroglycerin injection
IT Solubilizers
(for nitroglycerin injections)
IT 55-63-0
RL: BIOL (Biological study)
(injections, solubilizers and carriers for)
IT 50-70-4, biological studies **50-99-7**, biological studies
57-48-7, biological studies **63-42-3 69-65-8**
7647-14-5, biological studies
RL: BIOL (Biological study)
(nitroglycerin injections contg., for controlling isotonicity)
IT 51-79-6 97-64-3 100-79-8 107-88-0 111-55-7 111-96-6 112-60-7
123-80-8 126-33-0 127-19-5 542-59-6 1187-03-7 1569-01-3
4128-76-1 5422-34-4 5464-28-8 9003-11-6 9004-32-4 11111-34-5
19354-27-9 24567-27-9 25322-68-3 29387-84-6 53778-73-7
83931-54-8
RL: BIOL (Biological study)
(nitroglycerin solubilization by, for injections)
IT 50-21-5, properties 56-81-5, properties 57-13-6, biological studies
57-55-6, properties 68-12-2, properties
RL: PRP (Properties)
(nitroglycerin solubilization by, for injections)

L61 ANSWER 270 OF 294 CA COPYRIGHT 2003 ACS
AN 85:18011 CA
TI Lyophilization of hemoglobin **solutions**. Study of protector compounds capable of preventing the formation of methemoglobin
AU Labrude, P.; Vigneron, C.; Streiff, F.
CS Cent. Reg. Transfus. Sang. Nancy-Brabois, Vandoeuvre, Fr.

SO Journal de Pharmacie de Belgique (1976), 31(2), 191-8
CODEN: JPBEAJ; ISSN: 0047-2166
DT Journal
LA French
AB The protection of Hb **solns**. against oxidn. to methemoglobin during lyophilization by plasma expanders, macromols., sugars, glycerol, and THAM was studied. The most active mols. were the sugars and THAM which almost entirely prevented the formation of methemoglobin at a concn. of 1.25%.
CC 13-5 (Mammalian Biochemistry)
ST Hb oxidn lyophilization preservative; methemoglobin formation lyophilization preservative
IT Blood substitutes
Albumins
Sugars, biological studies
RL: BIOL (Biological study)
(Hb oxidn. response to, in lyophilization)
IT Methemoglobins
RL: FORM (Formation, nonpreparative)
(formation of, in lyophilization, prevention of)
IT Freeze drying
(of Hb, oxidn. prevention in)
IT Hemoglobins
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidn. of, in lyophilization, prevention of)
IT 50-70-4 **50-99-7**, biological studies 56-81-5, biological studies 57-48-7, biological studies 57-50-1, biological studies 59-23-4, biological studies **63-42-3** **69-65-8** 77-86-1 3458-28-4 8057-73-6 9002-89-5 9003-39-8 9004-54-0, biological studies 39290-10-3 54847-63-1 66455-30-9
RL: BIOL (Biological study)
(Hb oxidn. response to, in lyophilization)

L61 ANSWER 272 OF 294 CA COPYRIGHT 2003 ACS
AN 83:197730 CA
TI Comparative testing of titrable acidity degree and pH value of infusion **solutions**
AU Horvath, Klara; Regos, Erika; Varga, Sarolta
CS Inst. Serobacteriol. Prod. Res. "HUMAN", Godollo, Hung.
SO Annales Immunologiae Hungaricae (1973), 17, 265-8
CODEN: AIMHA3; ISSN: 0570-1708
DT Journal
LA English
AB The titrable acidity degree (i.e. the hydrogen ion reserve possessed by the nondissociated species of weak acids) of various infusion **solns**. was reported and compared with the pH of the same **solns**. Since in the case of weak acids pH does not characterize unequivocally the acidic character of the **soln**. it was suggested that the labels of infusion **solns**. also contain the value of titrable acidity.
CC 63-5 (Pharmaceuticals)
ST infusion **soln** titrable acidity
IT Ringer's **solution**
RL: BIOL (Biological study)
(acetate infusion **soln**., titrable acidity degree of, pH in relation to)
IT Pharmaceuticals
(infusion **solns**., titrable acidity degree of, pH in relation to)
IT Ringer's **solution**
RL: BIOL (Biological study)
(lactate infusion **soln**., titrable acidity degree of, pH in relation to)
IT Ringer's **solution**

RL: BIOL (Biological study)
(titrable acidity degree of, pH in relation to)

IT 9004-54-0, biological studies
RL: BIOL (Biological study)
(infusion glucose **soln**., titrable acidity degree of, pH in relation to)

IT **50-99-7**, biological studies 57-48-7, biological studies
63-42-3 69-65-8 9004-54-0, biological studies
57455-70-6 57455-71-7
RL: BIOL (Biological study)
(infusion **soln**., titrable acidity degree of, pH in relation to)

=>

(Uses)
(advantageous carrier **soln.** for vitrifiable concns. of cryoprotectants, and compatible cryoprotectant mixts.)

L61 ANSWER 65 OF 294 CA COPYRIGHT 2003 ACS
AN 133:109998 CA
TI Beta-interferon lozenge and its preparing method
IN Cao, Xuetao; Ju, Dianwen; Tao, Qun
PA Huachen Biological Technology Inst., Shanghai, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 13 pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 1227124	A	19990901	CN 1998-105383	19980225
PRAI CN 1998-105383		19980225		

AB The beta interferon lozenge is composed of 1-10 kIU beta-interferon and medicinal adjuvant. The medicinal adjuvant is selected from one or more of human serum albumin, bovine serum protein, polyethylene glycol, mannitol, lactose, glucose, starch, Mg stearate, and dextrin. The beta-interferon lozenge may contain 100-1,000 IU alpha-interferon and/or 1-10 kIU interleukin-2. The beta interferon lozenge is prepd. by mixing medicinal adjuvant, sieving, drying to obtain blank granule; spraying beta-interferon **soln.** in the blank granule; drying, and tableting. The lozenge is used for treatment of virus infection and/or tumor.
IC ICM A61K038-21
ICS A61K009-20
CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 15
ST beta interferon lozenge prepn
IT Proteins, general, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(blood; beta-interferon lozenge and its prepg. method)
IT Drug delivery systems
(lozenges; beta-interferon lozenge and its prepg. method)
IT Interferons
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(.alpha.; .beta.-interferon lozenge and its prepg. method)
IT Antitumor agents
Antiviral agents
(.beta.-interferon lozenge and its prepg. method)
IT Albumins, biological studies
Interleukin 2
Polyoxyalkylenes, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(.beta.-interferon lozenge and its prepg. method)
IT Interferons
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(.beta.; .beta.-interferon lozenge and its prepg. method)
IT 9004-53-9, Dextrin 9005-25-8, Starch, biological studies
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(beta-interferon lozenge and its prepg. method)
IT **50-99-7**, Glucose, biological studies **63-42-3**, Lactose **69-65-8**, Mannitol 557-04-0, Magnesium stearate 25322-68-3, Polyethylene glycol
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(.beta.-interferon lozenge and its prepg. method)

L61 ANSWER 191 OF 294 CA COPYRIGHT 2003 ACS
AN 112:62604 CA
TI Monocarboxylic acid esters as blood preservatives

IN Nagai, Hiroshi; Kubota, Yoshiki; Tamura, Yoko; Kimura, Akio
PA Terumo Corp., Japan; Kao Corp.
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 01106826	A2	19890424	JP 1987-263695	19871021
PRAI	JP 1987-263695		19871021		

OS MARPAT 112:62604
AB A preservative for blood contains an antihemolytic agent, RCO2R1 (R and R1 = C .gtoreq.3 hydrocarbyl; the sum of C in R and R1 is 11-30), together with other preservatives such as Na citrate, citric acid, glucose, NaH2PO4, adenine, NaCl, mannitol, etc. Thus, Tween-80 was dissolved (600 .mu.g/mL) in a **soln**. contg. NaCl 140, adenine 1.25, and glucose 50 mM, and 12 mM iso-Pr isolaurate was added. This emulsion (1.0 mL) was added as a preservative to 2.0 mL human erythrocyte conc. (with hematocrit value 70%) and stored for 5 wk at 4.degree..
IC ICM A61K035-14
CC 63-3 (Pharmaceuticals)
ST blood preservative antihemolytic carboxylate
IT Blood preservatives
(contg. monocarboxylic acid esters, as antihemolytic agents)
IT Carboxylic acids, esters
RL: BIOL (Biological study)
(esters, blood preservatives contg., as antihemolytic agents)
IT 50-70-4, Sorbitol, biological studies **50-99-7**, D-Glucose, biological studies 57-50-1, Sucrose, biological studies **63-42-3**, Lactose 68-04-2, Sodium citrate **69-65-8**, Mannitol 69-79-4, Maltose 73-24-5, Adenine, biological studies 77-92-9, Citric acid, biological studies 585-88-6, Maltitol 7558-80-7, Monosodium phosphate 7647-14-5, Sodium chloride, biological studies
RL: BIOL (Biological study)
(blood preservatives contg. antihemolytic carboxylic esters and)
IT 112-11-8, Isopropyl oleate 7425-14-1, 2-Ethylhexyl 2-ethylhexanoate 81897-25-8, 2-Ethylhexyl isostearate 120470-79-3, Isopropyl isolaurate
RL: BIOL (Biological study)
(blood preservatives contg., as antihemolytic agent)

L61 ANSWER 197 OF 294 CA COPYRIGHT 2003 ACS
AN 110:219123 CA
TI Hemolysis inhibitors and medical resin compositions, medical goods, and blood-preserving fluids containing the same
IN Nagai, Hirofumi; Kubota, Yoshinori; Tamura, Yoko; Sado, Mineo; Kora, Shinichi; Kimura, Akio; Suzue, Shigetoshi; Miyamoto, Norioki
PA Kao Corp., Japan; Terumo Corp.
SO PCT Int. Appl., 163 pp.
CODEN: PIXXD2
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 8803027	A1	19880505	WO 1987-JP810	19871022
	W: AU, US				
	RW: BE, DE, FR, GB, IT, NL, SE				
	JP 63104916	A2	19880510	JP 1986-249552	19861022
	JP 04015203	B4	19920317		
	AU 8781050	A1	19880525	AU 1987-81050	19871022
	AU 623071	B2	19920507		
	ES 2005457	A6	19890301	ES 1987-3293	19871022
	EP 334956	A1	19891004	EP 1987-906934	19871022

R: BE, DE, FR, GB, IT, NL, SE
PRAI JP 1986-249552 19861022
WO 1987-JP810 19871022
AB Hemolysis inhibitors contg. carboxylic acid ester polymers, ether compds., and/or monocarboxylic ester are used to manuf. clin. resin compns., medical goods and blood preservers. Iso-Pr isotridecyl maleate (I) was dispersed in a mixt. of polyoxyethylene monooleate-saline (2000 .mu.g/mL) to make a 4 mM emulsion. This emulsion was added to a fluid contg. human erythrocytes having 70% hematocrit value such that the concn. of I was 0.4 mM. The fluid kept at 4.degree. for 4 wk showed the stability of erythrocytes. The stability of erythrocytes was also demonstrated by keeping blood in a poly(vinyl chloride) bag which consisted of poly(vinyl chloride) 100, didecyl phthalate 30, iso-Pr decyl maleate 20, epoxylated soybean oil 10, and a Ca-Zn type stabilizer 0.1 parts by wt.
IC ICM A61K035-14
ICS A61L031-00; A61M005-00; A01N001-02
CC 63-7 (Pharmaceuticals)
ST hemolysis inhibitor medical goods; blood preservative hemolysis inhibitor
IT Glycerides, biological studies
RL: DEV (Device component use); USES (Uses)
(as hemolysis inhibitors, medical goods contg.)
IT Blood preservation
(carboxylic acid esters and ethers in, as hemolysis inhibitors)
IT Medical goods
(hemolysis inhibitor-contg.)
IT Hemolysis
(inhibitors, carboxylic acid derivs. as)
IT Acrylic polymers, biological studies
Polycarbonates, biological studies
Polyesters, biological studies
Urethane polymers, biological studies
RL: BIOL (Biological study)
(medical goods contg. hemolysis inhibitors and)
IT Erythrocyte
(stabilization of, by carboxylic acid derivs.)
IT 50-70-4, D-Glucitol, biological studies **50-99-7**, D-Glucose, biological studies 57-50-1, biological studies **63-42-3**, Lactose 68-04-2 **69-65-8**, Mannitol 69-79-4 73-24-5, Adenine, biological studies 77-92-9, Citric acid, biological studies 585-88-6, Maltitol 7558-80-7, Monosodium phosphate 7647-14-5, Sodium chloride, biological studies
RL: BIOL (Biological study)
(as blood preservative **soln**. contg.)
IT 120486-11-5
RL: BIOL (Biological study)
(as hemolysis inhibitor)
IT 112-11-8, Isopropyl oleate 7425-14-1, 2-Ethylhexyl 2-ethylhexanoate 59068-03-0, Glycerin 1,3-bis(2-ethylhexyl) ether 81897-25-8 93120-93-5, Glycerin 1-butyl-3-isostearyl ether 120422-95-9 120422-96-0 120470-78-2 120470-79-3 120573-91-3
RL: DEV (Device component use); USES (Uses)
(as hemolysis inhibitor, medical goods contg.)
IT 97-65-4D, esters 110-15-6D, Butanedioic acid, esters 110-16-7D, Maleic acid, esters 110-94-1D, Glutaric acid, esters 111-20-6D, Sebacic acid, esters 124-04-9D, Hexanedioic acid, esters 143-07-7D, Dodecanoic acid, esters 328-42-7D, Oxalacetic acid, esters
RL: DEV (Device component use); USES (Uses)
(as hemolysis inhibitors, medical goods contg.)
IT 84-77-5, Didecyl phthalate 89-04-3, Trioctyl trimellitate
RL: BIOL (Biological study)
(as plasticizer, medical goods resin compns. contg.)
IT 9002-86-2, Poly(vinyl chloride) 9002-88-4, Polyethylene 9003-07-0, Polypropylene 9003-21-8, Methyl acrylate polymer 9003-22-9, Vinyl acetate-vinyl chloride copolymer 9003-32-1 9003-42-3, Ethyl

L69 ANSWER 24 OF 39 WPIDS (C) 2003 THOMSON DERWENT
AN 1998-076784 [07] WPIDS
CR 1998-593980 [50]
DNC C1998-025629
TI **Solution** for preservation of biological materials - comprises two neutral solutes, especially raffinose and tri methylamine oxide.
DC B04 D16 D22 E19 E37 P31
IN FERGUSON, A B; WIGGINS, P M; WATSON, J D
PA (BIOS-N) BIOSTORE NEW ZEALAND LTD; (BIOS-N) BIOSTORE NZ LTD; (BIOS-N) BIOSTORE NEW ZEALAND
CYC 73
PI WO 9747192 A1 19971218 (199807)* EN 53p
RW: AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG
W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN
AU 9661412 A 19980107 (199820)
ZA 9710452 A 19980826 (199840)# 79p
US 5879875 A 19990309 (199917)#
NZ 333030 A 20000526 (200033)
EP 1018866 A1 20000719 (200036) EN
R: CH DE FR GB LI SE
JP 2000512625 W 20000926 (200051) 50p
AU 725247 B 20001012 (200055)
AU 2001010037 A 20010315 (200121)#
AU 742402 B 20020103 (200209)#
EP 1018866 B1 20021204 (200303) EN
R: CH DE FR GB LI SE
DE 69625254 E 20030116 (200313)
ADT WO 9747192 A1 WO 1996-NZ57 19960614; AU 9661412 A AU 1996-61412 19960614, WO 1996-NZ57 19960614; ZA 9710452 A ZA 1997-10452 19971120; US 5879875 A US 1996-662244 19960614; NZ 333030 A NZ 1996-333030 19960614, WO 1996-NZ57 19960614; EP 1018866 A1 EP 1996-918938 19960614, WO 1996-NZ57 19960614; JP 2000512625 W WO 1996-NZ57 19960614, JP 1997-541244 19960614; AU 725247 B AU 1996-61412 19960614, WO 1996-NZ57 19960614; AU 2001010037 A Div ex AU 1996-61412 19960614, AU 2001-10037 20010103; AU 742402 B Div ex AU 1996-61412 19960614, AU 2001-10037 20010103; EP 1018866 B1 EP 1996-918938 19960614, WO 1996-NZ57 19960614; DE 69625254 E DE 1996-625254 19960614, EP 1996-918938 19960614, WO 1996-NZ57 19960614
FDT AU 9661412 A Based on WO 9747192; NZ 333030 A Based on WO 9747192; EP 1018866 A1 Based on WO 9747192; JP 2000512625 W Based on WO 9747192; AU 725247 B Previous Publ. AU 9661412, Based on WO 9747192; AU 2001010037 A Div ex AU 725247; AU 742402 B Previous Publ. AU 200110037, Div ex AU 725247; EP 1018866 B1 Based on WO 9747192; DE 69625254 E Based on EP 1018866, Based on WO 9747192
PRAI WO 1996-NZ57 19960614; ZA 1997-10452 19971120; US 1996-662244 19960614; AU 2001-10037 20010103
AB WO 9747192 A UPAB: 20030224
The following are claimed: (1) a **solution** for preservation of biological materials: (A)comprising: (a) a first neutral solute with a molecular weight of at least 335 and a solubility in water of at least 0.3 M, and (b) a second neutral solute with a molecular weight < 200 and with both hydrophilic and hydrophobic moieties; or (B) which is isotonic with the biological materials and is free of univalent oxyanions and iodide, and (2) preservation of biological materials by: (a) pretreating the biological material with a **solution** which includes sodium butyrate, and (b) contacting the biological material with a preservative **solution**.

The **solution** (A) is free of univalent oxyanions and iodide, and also comprises at least 1 ion from a protein-stabilising end of the Hofmeister series. The first solute is selected from disaccharides and trisaccharides, especially raffinose, trehalose, sucrose, **lactose**

and their analogues. The second neutral solute is selected from trimethylamine oxide, betaine, taurine, sarcosine, **glucose**, mannose, fructose, ribose, galactose, sorbitol, **mannitol**, inositol and their analogues. The **solution** may also comprise sodium sulphate. It may also comprise calcium, which is present as calcium sulphate at a concentration of 1.5-2.0 mM. The **solution** is in a concentrated form, especially in the form of a solid. Components (a) and (b) are typically present at a ratio of 1.4-1.8:1.

USE - The **solutions** may be used for preservation of materials such as **organs**, **tissues** and **cells** from mammals, marine organisms and plants. They may be used e.g. in treatment of leukaemia. In this case, bone marrow is removed from a patient and contacted with the **solution** for at least 3 days, in order to purge the bone marrow of leukaemic **cells**. The purged bone marrow is then returned to the patient.

ADVANTAGE - The **solutions** are of low toxicity, resulting in fewer side effects when biological materials, such as transplant **organs**, are returned to a patient.

Dwg.0/20

L69 ANSWER 5 OF 39 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-479639 [51] WPIDS
DNC C2002-136479
TI Vitrification of natural or engineered **tissue** or **organ** other than blood vessel involves immersing **tissue** in cryoprotectant **solutions** with increasing concentrations and cooling to below glass transition temperature.
DC A96 D22 E19 G04 J07
IN BROCKBANK, K G M; KHIRABADI, B S; SONG, Y C
PA (ORGA-N) ORGAN RECOVERY SYSTEMS
CYC 94
PI WO 2002032225 A2 20020425 (200251)* EN 32p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
AU 2002011792 A 20020429 (200255)
ADT WO 2002032225 A2 WO 2001-US32415 20011018; AU 2002011792 A AU 2002-11792 20011018
FDT AU 2002011792 A Based on WO 200232225
PRAI US 2000-691197 20001019
AB WO 200232225 A UPAB: 20020812
NOVELTY - A natural or engineered **tissue** or **organ** other than a blood vessel is vitrified by:
(i) immersing it in a series of **solutions** having increasing concentrations of cryoprotectant to achieve a cryoprotectant concentration for vitrification;
(ii) rapidly cooling to between -80 deg. C and the glass transition temperature (Tg); and
(iii) further cooling to below Tg.
DETAILED DESCRIPTION - Vitrification of a natural or engineered **tissue** or **organ** other than a blood vessel comprises:
(i) immersing the **tissue** (3) or **organ** in a series of **solutions** having increasing concentrations of cryoprotectant and each having a temperature above -15 deg. C;
(ii) cooling the **tissue** of **organ** at 2.5-100 deg. C per minute from a temperature above -15 deg. C to between -80 deg. C and the Tg; and
(iii) further cooling at average rate less than 30 deg. C per minute from between -80 deg. C and the Tg to below the Tg to vitrify the **tissue** or **organ**.
An INDEPENDENT CLAIM is also included for a method for removing a **tissue** or **organ** other than a blood from vitrification in a **solution** containing cryoprotectant by:
(a) warming the vitrified **tissue** or **organ** in a **solution** containing cryoprotectant at an average rate of 20-40 deg. C per minute to between -80 deg. C and the Tg;
(b) further warming in the **solution** at an average rate of 200-300 deg. C per minute to a temperature above -75 deg. C; and
(c) immersing the **tissue** or **organ** in a series of **solutions** having decreasing concentrations of cryoprotectant.
USE - For vitrifying a natural or engineered **tissue** or **organ** other than a blood vessel, particularly musculoskeletal **tissue**, cartilage, menisci, muscles, ligaments, tendons, skin, cardiovascular **tissue**, heart valves, myocardium, periodontal **tissue**, glandular **tissue**, islets of Lange, cornea, ureter, urethra, pancreas, bladder, kidney, breast, liver, intestine or heart.
ADVANTAGE - The vitrification method results in a greater number or percentage of viable **cells** in a **tissue** or **organ** sample, compared to conventional cryopreservation

techniques. It results in **tissue** or **organ** samples having at least 50% viable **cells**.

DESCRIPTION OF DRAWING(S) - The figure shows a perfusion system that can be used in the invention.

Tissue 3

Dwg.1/4

TI Vitrification of natural or engineered **tissue** or **organ** other than blood vessel involves immersing **tissue** in cryoprotectant **solutions** with increasing concentrations and cooling to below glass transition temperature.

AB WO 200232225 UPAB: 20020812

NOVELTY - A natural or engineered **tissue** or **organ** other than a blood vessel is vitrified by:

(i) immersing it in a series of **solutions** having increasing concentrations of cryoprotectant to achieve a cryoprotectant concentration for vitrification;

(ii) rapidly cooling to between -80 deg. C. . . glass transition temperature (Tg); and

(iii) further cooling to below Tg.

DETAILED DESCRIPTION - Vitrification of a natural or engineered **tissue** or **organ** other than a blood vessel comprises:

(i) immersing the **tissue** (3) or **organ** in a series of **solutions** having increasing concentrations of cryoprotectant and each having a temperature above -15 deg. C;

(ii) cooling the **tissue** of **organ** at 2.5-100 deg. C per minute from a temperature above -15 deg. C to between -80 deg. C and the. . . 30 deg. C per minute from between -80 deg. C and the Tg to below the Tg to vitrify the **tissue** or **organ**.

An INDEPENDENT CLAIM is also included for a method for removing a **tissue** or **organ** other than a blood from vitrification in a **solution** containing cryoprotectant by:

(a) warming the vitrified **tissue** or **organ** in a **solution** containing cryoprotectant at an average rate of 20-40 deg. C per minute to between -80 deg. C and the Tg;

(b) further warming in the **solution** at an average rate of 200-300 deg. C per minute to a temperature above -75 deg. C; and

(c) immersing the **tissue** or **organ** in a series of **solutions** having decreasing concentrations of cryoprotectant.

USE - For vitrifying a natural or engineered **tissue** or **organ** other than a blood vessel, particularly musculoskeletal **tissue**, cartilage, menisci, muscles, ligaments, tendons, skin, cardiovascular **tissue**, heart valves, myocardium, periodontal **tissue**, glandular **tissue**, islets of Lange, cornea, ureter, urethra, pancreas, bladder, kidney, breast, liver, intestine or heart.

ADVANTAGE - The vitrification method results in a greater number or percentage of viable **cells** in a **tissue** or **organ** sample, compared to conventional cryopreservation techniques. It results in **tissue** or **organ** samples having at least 50% viable **cells**.

DESCRIPTION OF DRAWING(S) - The figure shows a perfusion system that can be used in the invention.

Tissue 3

Dwg.1/4

TECH UPTX: 20020812

TECHNOLOGY FOCUS - BIOTECHNOLOGY - Preferred Method: Cooling the **tissue** or **organ** from above -15 degreesC to between -80 degreesC and the Tg is performed at an average rate of at least 10 degreesC (preferably 30-60 degreesC) per minute. Cooling the **tissue** or **organ** from between -80 degreesC and the Tg to below the Tg is performed at an average rate less than 10 degreesC per minute. The immersion step (i) comprises immersing the **tissue** or **organ** in a cryoprotectant-free **solution**; immersing the **tissue** or **organ** in **solution**(s) containing

cryoprotectant at a concentration less than the concentration sufficient for the vitrification; and immersing the **tissue** or **organ** in a **solution** containing cryoprotectant at the concentration sufficient for vitrification. In each immersion step, the **tissue** or **organ** is immersed in the **solution** for at least 10 minutes. The increasing and decreasing concentrations of cryoprotectant are (a) 5-50%, 15-35%, 40-60%, and 65-85%; or (b) 40-60%, 30-45%, 15-35%, 5-20%, 2.5-10%, and 0%.

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Components: The cryoprotectant **solution** comprises acetamide, agarose, alginate, alanine, albumin, ammonium acetate, anti-freeze proteins, butanediol, chondroitin sulfate, chloroform, choline, cyclohexanediols, dextrans, diethylene glycol, dimethyl acetamide, dimethyl formamide, dimethyl sulfoxide, erythritol, ethanol, ethylene glycol, ethylene glycol monomethyl ether, formamide, **glucose**, glycerol, glycerophosphate, glyceryl monoacetate, glycine, glycoproteins, hydroxyethyl starch, inositol, **lactose**, magnesium chloride, magnesium sulfate, maltose, **mannitol**, mannose, methanol, methoxy propanediol, methyl acetamide, methyl formamide, methyl ureas, methyl **glucose**, methyl glycerol, phenol, pluronic polyols, polyethylene glycol, polyvinyl pyrrolidone, proline, 1,2-propanediol, pyridine N-oxide, raffinose, ribose, serine, sodium bromide, sodium chloride,. . . and/or xylose. It preferably comprises (in weight per volume) dimethyl sulfoxide (20-30%), formamide (10-20%) and 1,2-propanediol (10-20%) in a vehicle **solution**. Each **solution** comprises an osmotic buffering agent, preferably **mannitol**.

TT TT: VITREOUS NATURAL ENGINEERING **TISSUE ORGAN** BLOOD VESSEL IMMERSE **TISSUE SOLUTION** INCREASE CONCENTRATE COOLING BELOW GLASS TRANSITION TEMPERATURE.

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L7 ANSWER 23 OF 37 CA COPYRIGHT 2003 ACS
AN 121:252473 CA
TI Effect of polyols on the post-thawing motility of pellet-frozen ram spermatozoa
AU Molinia, F. C.; Evans, G.; Maxwell, W. M. C.
CS Department Animal Science, University Sydney, Sydney, NSW 2006, Australia
SO Theriogenology (1994), 42(1), 15-23
CODEN: THGNBO; ISSN: 0093-691X
DT Journal
LA English
AB The cryoprotective effects of polyols in the absence and presence of glycerol in Tris-glucose-egg yolk based diluents on the post-thawing motility and acrosome integrity of pellet-frozen ram spermatozoa were examd. Incorporation of adonitol or xylitol (low mol. wt. polyols; LMWPs) in diluents improved motility of spermatozoa in the absence of glycerol with max. motility at 0.3 M (26.9 vs. 13.3% mean motile spermatozoa). Five concns. of adonitol (0, 150, 300, 450, 600 mM) were examd. in diluents contg. 5 concns. of glycerol (0, 1.5, 3.0, 4.5, 6.0% vol./vol.). There was an additive effect of incorporation of 1.5% vol./vol. glycerol with up to 450 mM adonitol, but at higher levels of glycerol the incorporation of adonitol was detrimental to motility. The acrosome integrity of spermatozoa in diluents contg. 0, 150 and 300 mM adonitol was superior to those contg. 450 and 600 mM adonitol (46.1 vs. 35.1% mean intact acrosomes). Among the high mol. wt. polyols (HMWPs) examd., better recovery of spermatozoa was obtained in diluents contg. sorbitol than mannitol or inositol. Sorbitol or mannitol (300 mM) improved the motility of spermatozoa in diluents without glycerol, but the incorporation of HMWPs was detrimental in diluents contg. glycerol. All five polyols were examd. in isotonic diluents contg. 360:0, 300:55, 240:110, 180:165, 120:220mM (Tris:polyol; 360 mosmol) and 6.0% vol./vol. glycerol. There was a linear decrease in motility and acrosome integrity of spermatozoa with increasing polyol concn. in the diluent except for inositol, which was not detrimental. The authors conclude that the polyols examd. have a cryoprotective effect on pellet-frozen ram spermatozoa except for inositol. However, in the authors study, no combination of polyols and glycerol was superior in terms of post-thawing motility and acrosome integrity of spermatozoa to 6.0% vol./vol. glycerol alone in Tris-glucose-egg yolk diluents.

L1 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2002 ACS
RN 9041-07-0 REGISTRY
CN **Decaglycerol (9CI)** (CA INDEX NAME)
OTHER NAMES:
CN Decaglycerin
CN Polyglycerin 10
DR 83689-42-3, 26085-10-9, 34322-27-5
MF C30 H62 O21
CI IDS, COM, MAN
LC STN Files: BIOBUSINESS, BIOSIS, CA, CAPLUS, CASREACT, CHEMLIST, IFICDB, IFIPAT, IFIUDB, NIOSHTIC, TOXCENTER, USPATFULL
    Other Sources: EINECS**, NDSL**, TSCA**
        (**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
            127 REFERENCES IN FILE CA (1962 TO DATE)
             63 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
            127 REFERENCES IN FILE CAPLUS (1962 TO DATE)

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L9 ANSWER 114 OF 268 WPIDS (C) 2002 THOMSON DERWENT
AN 1998-076784 [07] WPIDS
CR 1998-593980 [50]
DNC C1998-025629
TI **Solution** for preservation of biological materials - comprises two neutral solutes, especially raffinose and tri methylamine oxide.
DC B04 D16 D22 E19 E37 P31
IN FERGUSON, A B; WIGGINS, P M; WATSON, J D
PA (BIOS-N) BIOSTORE NEW ZEALAND LTD; (BIOS-N) BIOSTORE NZ LTD; (BIOS-N) BIOSTORE NEW ZEALAND
CYC 73
PI WO 9747192 A1 19971218 (199807)* EN 53p A01N001-00
RW: AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG
W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN
AU 9661412 A 19980107 (199820) A01N001-00
ZA 9710452 A 19980826 (199840)# 79p A61K000-00
US 5879875 A 19990309 (199917)# A01N001-02
NZ 333030 A 20000526 (200033) A01N003-00
EP 1018866 A1 20000719 (200036) EN A01N001-00
R: CH DE FR GB LI SE
JP 2000512625 W 20000926 (200051) 50p A01N001-00
AU 725247 B 20001012 (200055) A01N001-00
AU 2001010037 A 20010315 (200121)# A61K035-28
AU 742402 B 20020103 (200209)# A61K035-28
ADT WO 9747192 A1 WO 1996-NZ57 19960614; AU 9661412 A AU 1996-61412 19960614, WO 1996-NZ57 19960614; ZA 9710452 A ZA 1997-10452 19971120; US 5879875 A US 1996-662244 19960614; NZ 333030 A NZ 1996-333030 19960614, WO 1996-NZ57 19960614; EP 1018866 A1 EP 1996-918938 19960614, WO 1996-NZ57 19960614; JP 2000512625 W WO 1996-NZ57 19960614, JP 1997-541244 19960614; AU 725247 B AU 1996-61412 19960614, WO 1996-NZ57 19960614; AU 2001010037 A Div ex AU 1996-61412 19960614, AU 2001-10037 20010103; AU 742402 B Div ex AU 1996-61412 19960614, AU 2001-10037 20010103
FDT AU 9661412 A Based on WO 9747192; NZ 333030 A Based on WO 9747192; EP 1018866 A1 Based on WO 9747192; JP 2000512625 W Based on WO 9747192; AU 725247 B Previous Publ. AU 9661412, Based on WO 9747192; AU 2001010037 A Div ex AU 725247; AU 742402 B Previous Publ. AU 200110037, Div ex AU 725247
PRAI WO 1996-NZ57 19960614; ZA 1997-10452 19971120; US 1996-662244 19960614; AU 2001-10037 20010103
IC ICM A01N001-00; A01N001-02; A01N003-00; A61K000-00; A61K035-28
ICS A61B000-00; A61K031-00; A61K035-12; A61K035-14; A61K035-34; A61K035-36; A61K035-60; A61K035-78; A61P035-02; C12N001-04; C12N005-00; C12N005-06
AB WO 9747192 A UPAB: 20020208
The following are claimed: (1) a **solution** for preservation of biological materials: (A)comprising: (a) a first neutral solute with a molecular weight of at least 335 and a solubility in water of at least 0.3
M, and (b) a second neutral solute with a molecular weight < 200 and with both hydrophilic and hydrophobic moieties; or (B) which is isotonic with the biological materials and is free of univalent oxyanions and iodide, and (2) preservation of biological materials by: (a) pretreating the biological material with a **solution** which includes sodium butyrate, and (b) contacting the biological material with a preservative

solution.

The **solution** (A) is free of univalent oxyanions and iodide, and also comprises at least 1 ion from a protein-stabilising end of the Hofmeister series. The first solute is selected from disaccharides and trisaccharides, especially raffinose, trehalose, sucrose, **lactose** and their analogues. The second neutral solute is selected from trimethylamine oxide, betaine, taurine, sarcosine, glucose, mannose, fructose, ribose, galactose, sorbitol, **mannitol**, inositol and their analogues. The **solution** may also comprise sodium sulphate. It may also comprise calcium, which is present as calcium sulphate at a concentration of 1.5-2.0 mM. The **solution** is in a concentrated form, especially in the form of a solid. Components (a) and (b) are typically present at a ratio of 1.4-1.8:1.

USE - The **solutions** may be used for preservation of materials such as organs, tissues and cells from mammals, marine organisms and plants. They may be used e.g. in treatment of leukaemia. In this case, bone marrow is removed from a patient and contacted with the **solution** for at least 3 days, in order to purge the bone marrow of leukaemic cells. The purged bone marrow is then returned to the patient.

ADVANTAGE - The **solutions** are of low toxicity, resulting in fewer side effects when biological materials, such as transplant organs, are returned to a patient.

Dwg.0/20

FS CPI GMPI

FA AB; DCN

MC CPI: B04-C02X; B10-A07; B14-H01A; B14-N17B; D05-H01; D09-A01; E07-A02A; E07-A02D; E07-A02H; E10-A03

L28 ANSWER 30 OF 31 CA COPYRIGHT 2002 ACS
AN 98:213494 CA
TI Identification of new cryoprotective agents for cultured mammalian cells
AU Klebe, Robert J.; Mancuso, Melodee G.
CS Dep. Anat., Univ. Texas Health Sci. Cent., San Antonio, TX, 78284, USA
SO In Vitro (1983), 91(3, pt. 1), 167-70
CODEN: ITCSAF; ISSN: 0073-5655
DT Journal
LA English
AB Thirty-one compds. were identified that act as cryoprotective agents for cultured mammalian (CHO) cells. Eight compds. were comparable to DMSO in cryoprotective effectiveness. Many of the cryoprotective compds. studied also (1) promote cell fusion and (2) induce cell differentiation in erythroleukemia and other cell systems. Thus, previously unrecognized effects on the differentiated state of cells may occur when cells are treated with cryoprotective agents.

ANSWER 7 OF 30 MEDLINE
AN 1998353576 MEDLINE
DN 98353576 PubMed ID: 9687336
TI The physical state of **mannitol** after freeze-drying: effects of **mannitol** concentration, freezing rate, and a noncrystallizing cosolute.
AU Kim A I; Akers M J; Nail S L
CS Department of Industrial and Physical Pharmacy, Purdue University, West Lafayette, Indiana 47907, USA.
SO JOURNAL OF PHARMACEUTICAL SCIENCES, (1998 Aug) 87 (8) 931-5. Journal code: 2985195R. ISSN: 0022-3549.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199809
ED Entered STN: 19980910
Last Updated on STN: 19980910
Entered Medline: 19980903
AB The objectives of this study were to (1) measure the effects of freezing rate and **mannitol** concentration on the physical state of freeze-dried **mannitol** when **mannitol** is present as a single component, (2) determine the relative concentration threshold above which crystalline **mannitol** can be observed by X-ray powder diffraction in the freeze-dried solid when a variety of noncrystallizing solutes are included in the formulation, and (3) measure the glass transition temperature of amorphous **mannitol** and to determine the degree to which the glass transition temperature of freeze-dried solids consisting of **mannitol** and a disaccharide is predicted by the Gordon-Taylor equation. Both freezing rate and **mannitol** concentration influence the crystal form of **mannitol** in the freeze-dried solid when **mannitol** is present as a single component. Slow freezing of 10% (w/v) **mannitol** produces a mixture of the alpha and beta polymorphs, whereas fast freezing of the same **solution** produces the delta form. Fast freezing of 5% (w/v) **mannitol** results primarily in the beta form. The threshold concentration above which crystalline **mannitol** is detected in the freeze-dried solid by X-ray diffraction is consistently about 30% (w/w) when a second, noncrystallizing solute is present, regardless of the nature of the second component. The glass transition temperature of amorphous **mannitol** measured from the quench-cooled melt is approximately 13 degreesC. Accordingly, **mannitol** is an effective plasticizer of freeze-dried solids when the **mannitol** remains amorphous. Glass transition temperatures of mixtures of **mannitol** and the disaccharides sucrose, maltose, trehalose, and **lactose** are well predicted by the Gordon-Taylor equation with values of k in the range of 3 to 4.

~~9041-07-0~~
~~9002-89-5~~ X

30, 28, 25, 13, 10, 8

L9 ANSWER 184 OF 268 WPIDS (C) 2002 THOMSON DERWENT
AN 1989-162877 [22] WPIDS
DNC C1989-072372
TI New blood-preservative liq. compsn. - contg. haemolysis preventive of mono
carboxylic ester and other blood-preservative liq. ingredients, esp. for red blood corpuscles.
DC B05 D22 E19
PA (KAOS) KAO CORP; (TERU) TERUMO CORP
CYC 1
PI JP 01106826 A 19890424 (198922)* 8p
ADT JP 01106826 A JP 1987-263695 19871021
PRAI JP 1987-263695 19871021
IC A61K035-14
AB JP 01106826 A UPAB: 19930923
New blood-preservative liq. compsn. contains a haemolysis preventive of monocarboxylic ester of formula RCOOR' (I) and other blood-preservative liq. ingredients. (R and R' (individually) are 3C or higher chain hydrocarbon with R + R' = 11-30). Blood-preservative liqs. are e.g. anticoagulants and at least one of sodium citrate, citric acid, glucose, monosodium phosphate, adenine, sodium chloride, **mannitol**, maltose, multitol, sorbitol, sucrose, and **lactose**. Compsn. is prepd. by blending (1) with base liq. of ACd, CPD, CPDA-1, CPDA-2, SAG and
SAG **solns**. contg. **mannitol**, maltose, maltose, multitol, sorbitol, sucrose, and **lactose**. Either or both of R and R' are pref. branched. Final concn. of ester is 100 M - 10mM; and concn. is 400microM - 4 mM for branched R and/or R'.
USE/ADVANTAGE - Compsn. with high physiological safety, has good protective action esp. on red blood corpuscles. Effect is durable.
0/0
FS